STATE OF CALIFORNIA
DEPARTMENT OF FISH AND GAME
MARINE RESOURCES OPERATIONS

REPORT FOR THE MONTH OF OCTOBER 1960

HIGHLIGHTS

Two distinct stocks of sardines, a "northern type" and a "southern type" were discovered occupying the southern California fishing grounds during October. A co-operative study of the "stocks" by the Department and the United States Bureau of Commercial Fisheries using blood type systems similar to the A, B, O system in man, has revealed that a sample of sardines taken in Los Angeles Harbor was a type found off Baja California whereas a sample from Santa Cruz Island represented the type found north of Pt. Conception. While both types have been found off southern California before, they have not been found there during the fishing season at the same time. The southern type was approaching a spawning condition, but the gonads of the northern type were at a resting stage.

The party boat catch of bonito, through September, exceeded the catch for any previous 12-month period on record. By the end of December more than a million of these scrappy fish will have been gaffed.

The party boat catch of albacore already is the best since 1955 and that of halibut the best since 1954.

A purse seiner, recently converted from a tuna clipper, caught 30 tons of albacore and 60 tons of bluefin tuna in the area between Cape Mendocino and the Columbia River.

In seismic operations off the coast between Half Moon Bay and Fort Ross, the Shell Oil Company detonated 1,745 charges of explosives (63,685 pounds). There were 55 observed fish kills involving an estimated 10,426 fish. Three species (anchovies, sauries and atherinids) made up almost the entire kill.

An experimental planting of 15,000 eastern quahog clams has been made in Arcata Bay as part of an oyster company's plan to investigate the possibilities of clam culture in California bays.

A fine-scaled triggerfish and a black scabbardfish, both unusual in northern California waters, were taken off Crescent City and Point Sal respectively.

The U. S. Fish and Wildlife Service Biological Laboratory at Oxford, Maryland, is assisting our Stanford Laboratory in a histological study of oysters to determine if diseases caused recent mortality.

I. BOTTOMFISH

A. Flatfish: Fair weather through much of October gave the fishing fleet an opportunity to exploit more distant grounds. Flatfish landings were generally mixed with dover sole, the predominant species. Fair landings of petrale came in from southern Oregon, plus some English sole from northern California.

Another grinder for production of animal food was installed by F. Alioto Fish Co., at San Francisco.

Several vessels have turned from albacore to the trawl fishery. One new vessel, ATOMIC GIRL, was noted at Santa Barbara.

The trawler TWO BROTHERS, of Monterey, was lost with four crew members off Pacific Grove.

Sampling of market and animal food landings was continued at all ports as was the survey of the trawl fishery of Monterey Bay.

B. Rockfish: The trawl fleet operating in the Santa Barbara - Morro Bay area reported excellent fishing for rockfish, primarily bocaccio. A few cow rockfish (Sebastodes levis) were observed in the Santa Barbara markets. The Monterey fleet enjoyed a few days of good fishing during late September and early October. Landings were moderate at San Francisco and Eureka.

An age analysis and growth curve was completed for the canary rockfish, Sebastodes pinninger. This is the most important species in the northern California fishery. It will attain an age of nearly 25 years.

2. SHELLFISH

A. Abalone: During the first three weeks of the month rough and dirty water limited operations of the diving fleet at Morro Bay to four days.

The abalone investigation assisted Dr. C. P. Li in collecting and sampling abalone blood. The blood was frozen and shipped to the National Institute of Health, Bethesda, Md. where experiments on the effectiveness of abalone fluids as an anti-microbial agent are being conducted by Dr. Li. Papers published by Dr. Li indicate that fluids from canned and frozen abalone inhibit the growth of Staphylococcus aureus and to some extent also the course of poliomylitis in mice.

Field activities were begun in the Morro Bay area but weather conditions curtailed the work during the major portion of the month.

B. Crab: October was part of the closed season for crabs. The fishing areas south of Pt. Arena open on November 8.

The preseason crab cruise (60-N-9) aboard the NAUTILUS, ended October 27. The cruise was confined to the inshore waters between Pt. San Pedro and the Russian River. Crab fishing was conducted in the traditional commercial fishing grounds in this area to obtain information on catch per unit effort for studies of recruitment as related to spawning stock; width frequencies for studies of age determination; and basic life history data. The report of the cruise and a letter to the fishermen concerning this cruise were prepared for distribution.

During the cruise plankton was collected for Dr. Ueno at the University of California, Berkeley. Dr. Ueno is making a study of the rate absorption of radioactive substances by planktonic organisms in marine environments.

C. Oysters and clams: Recent mortalities of eastern oysters has prompted an investigation of the causes. The oysters had been transplanted from central Atlantic coast growing areas. Because our laboratories are not equipped for parasite and disease studies of marine species, we are relying upon the U. S. Fish and Wildlife Service for assistance. Samples from the beds of the Johnson Oyster Co., Drakes Estero and from oyster beds in Tomales Bay were fixed, preserved, and shipped to the Bureau's biological laboratory at Oxford, Maryland for analysis. This laboratory is checking the samples for traces of known diseases. The preliminary report from Dr. James Engle does not indicate that a virus or sporozoan was a possible cause of the mortality.

Harvesting of Pacific oysters has been increased from beds in Humboldt Bay. This has been made possible by employment of a new hydraulic dredge replacing the one previously used.

A shipment of about 15,000 young quahog clam (Venus mercenaria) from the Fish and Wildlife Laboratory, Milford, Conn. was inspected and planted on private beds in Arcata Bay. The clams were 6.2 to 15.2 mm long. They are part of a study conducted by Coast Oyster Company to determine whether this desirable clam can be cultured in California bays.

D. Shrimp: The research cruise of the N. B. SCOFIELD (60S5) for shrimp studies which began September 15 was completed at the end of October. Shrimp were taken in exploratory trawl fishing operations south of Avila to near Santa Cruz Island.

Beds off Central and Northern California were fished to secure data on relative length, weight, and sex composition. The occurrence of incidental fish in the catches was also studied in relation to size and number of the species taken.

3. PELAGIC FISH

A. Sardine: About 7,000 tons of sardines were delivered to the canneries this month, bringing the season's total to 21,000. At this date last season 19,000 tons had been landed.

The southern California fleet has netted the bulk of this season's catch, about 15,000 tons. Most of the fish taken this month came from Santa Cruz, Santa Rosa, and San Nicolas Islands. Boats have been limited to 100 tons. The price paid to the fishermen for sardines and mackerel remained at the $35.00 per ton level set in mid-August.

The M/V ALASKA returned October 27 from a 20 day sardine survey, (Cruise 60A8) off southern California waters. The survey objectives were threefold: to determine the relative amount and distribution of young fish resulting from the 1960 spawning; to sample the adult population of sardine for age composition and distribution; and to obtain live adult sardines for blood genetic studies in cooperation with the U. S. Fish and Wildlife Service.

Very poor spawn success off southern California was indicated with only one sample of 1960 spawned fish captured on 119 night light stations. Live adult sardines were captured in Los Angeles Harbor and off Santa Cruz Island. Serological tests indicated the Los Angeles Harbor sardines consisted of the "southern type population" while the Santa Cruz Island samples were characteristic of the "northern type". Previously both types had not been found off Southern California at the same time during the fishery season.

In addition the two groups differed markedly in gonad maturity. The "southern type" was in an advanced stage of maturity, (about ready to spawn) while the northern group's gonads were in a resting stage.

B. Mackerel: Notwithstanding a 20 ton limit and the low price offered some 2,700 tons of jack and 2,900 tons of Pacific mackerel were landed in October.

C. Anchovies: With many sportfishing landings shut down and others operating on curtailed schedules, the live bait fleet was not very active during the month. The availability of anchovies varied from day to day and were not abundant any place. No "fire cracker" sardines were reported.

Four days were spent in an aerial survey of the inshore area from the Mexican border to the Russian River. With the exception of the north-east corner of Monterey Bay, where 109 thin anchovy schools were seen, sardine, anchovy and mackerel schools were extremely rare.

4. TUNA

A. Albacore: Weather, economics, and scattered fish continued to hasten the seasonal decline in the number of boats seeking albacore. A short lived flurry of fishing took place as far south as San Juan Seamount early in the month but the most consistant fishing was well offshore between Monterey and Cape Mendocino.

Landings for the month included approximately 30 tons from one of the large tuna clippers recently converted to a purse seiner. These fish were caught as far north as the Columbia River in sets yielding from a fraction of a ton to as high as twelve. Several Canadian seiners also reported fair success off the Oregon coast. Though purse seine catches of albacore are not uncommon they are generally incidental to catches of other tuna, chiefly bluefin.

A tagged albacore, released 50 miles W. of Cortez Bank during August, 1960, was recovered this month by a Canadian purse seiner, 70 miles SW x W of Santa Rosa Island. At liberty for 56 days the fish had traveled 95 miles NW of the tagging position.

Considerable progress has been made towards completion of the summary and analysis of 1959 catch data, and work has started on this season's data. The contents of several albacore stomachs brought in by commercial fishermen are being identified and analysed.

B. Bluefin: All bluefin tuna landings this month were from catches made during August and September. Some vessels were compelled to hold their fish under refrigeration for as long as 10 weeks before unloading.

The seiner that took 30 tons of albacore also landed more than 60 tons of bluefin tuna from approximately 50 miles west of Cape Mendocino. These fish

averaged over 100 pounds each and extended the range of commercially caught bluefin some 450 miles to the north. One fish, 1695 mm. (67 inches) fork length weighed between 200-210 pounds -- not a record but plenty large.

In addition to routine waterfront sampling, the collection of bluefin scale samples now has been completed for a preliminary study of age composition of the catch. Approximately 1,500 have been taken this season.

5. SPORTFISH

A. Party boats: Through September more bonito have been taken on party boats in 1960 than any year on record. The previous top of 776,386 fish set last year, already has been exceeded by a whopping 150,000 fish. By the end of the year, well over a million bonito should be counted.

Despite tiresome round-trip cruises of 100 miles and more, party boat anglers have decked approximately 75,000 albacore for the best year since 1955.

California halibut appeared in flurries in both the Long Beach and Santa Monica areas, throughout the fishing season. Through September, 42,500 of them have made 1960 the best season since 1954. Small fish have dominated the catch, indicating a possible upsurge in the commercial take within several years.

Striped Bass anglers in and outside of San Francisco Bay have landed about 20,000 fish to date. Limit catches of three fish have been made frequently and with ease.

San Diego and Long Beach boats combined forces to land over 1,600 yellowfin tuna during September, each averaging around 15 pounds. This has been a rare visitor to California.

A 14½ pound kelp bass "scooped" by the bait boat ERYCYL D, was found to be 32 years old. This is the largest and oldest kelp bass examined at the laboratory.

The 1960 party boat catch of six key marine species compares with 1959 and the all time record as follows:

Through September	1960	1959	All-time record
Bonito	927,285	671,542	776,386 (1959)
Rockfish	836,067	804,286	2,036,708 (1956)
Barracuda	679,271	1,130,932	1,195,585 (1959)
Kelp Bass	421,855	392,868	876,667 (1954)
Yellowtail	232,041	398,345	457,350 (1959)
Salmon	36,405	53,110	128,978 (1955)

B. Northern California Marine Sport Fish Survey (DJ F-12-R-7)

Sport Fishery: Sport fishing effort has dropped sharply during week days due to termination of the school summer vacation and occurrence of periods of high seas. Weekend fishing has continued to be fairly heavy, especially skiff, shore and pier fishing.

Large sized lingcod were being caught closer to shore with the approach of their spawning season but rockfish catches were declining over the entire study area.

Total Effort and Angler Use Studies: Party boat and rock fishing sampling was routinely continued.

Lettering of figures for Part II of the"Field Guide" was started.

In the field of "other duties as required" Dan Gotshall was first to happen upon a suicide victim at Bean Hollow State Park. Dan turned off the man's car motor and opened the door to let out exhaust fumes. The victim had no pulse and was not breathing so he quickly summoned the police with resuscitator but all was too late. A few days later Gotshall summoned the police and aided in calming down a soldier threatening a woman with a hammer behind the counter at Sam's Fishing Fleet at Monterey. The soldier was "after" two men aboard one of Sam's party boats and demanded to know what boat they were on. The police soon arrived and took the offender away.

C. Barracuda and White Seabass Management Study (DJ F-16-R-4)

According to reliable sources barracuda and white seabass were generally available in southern California coastal waters during October. The usual fall decline in effort restricted the sport take. Commercial fishermen made occasional light deliveries of both species; a situation consistant with past seasonal patterns. The best barracuda fishing was found on the Huntington Beach Flats and in Santa Monica Bay. The few white seabass landed came from Santa Monica Bay.

As a prelude to the determination of barracuda ages from scale samples, the scale length-body length relationship was investigated. A start was also made in the calculation of body lengths at previous ages, from scales, in an attempt to reconstruct the structure of the barracuda population prior to the initiation of the project.

The 1959 tabulated reports of the commercial catch of barracuda and white seabass were received from the biostatistical unit. A hasty perusal revealed that imports of barracuda from Mexico were at an all-time low of 42,000 pounds. The commercial landings of 1,100,000 pounds were the best in 12 years.

The season was only moderately successful however, when contrasted to previous landings and to the record sport take of 1.2 million fish (4,800,000 pounds at a conversion rate of 4 pounds per fish).

Scale mounting came to an abrupt halt at mid-month with the termination of Miss Sonia Detert, seasonal aid. She left to accept a permanent position with another agency.

D. Ocean Fish Habitat Development (DJ F-17-R-4)

Routine observations were carried out at all five artificial reefs in Santa Monica Bay. Water clarity was slightly improved from last month with visibility to 60 feet at the streetcar reef. At Malibu and Santa Monica it was restricted to 15 feet.

There was evidence of increased fishing pressure on the streetcar reef; however, in spite of this, nearly 3,000 fishes were observed during the dive.

The car body reef at Paradise Cove showed signs of continued deterioration, but was still attracting over 8,000 semi-resident fishes. The kelp on the cars appeared healthy.

Diving observations on the new WCB reefs gave indications of a slight preference by the fishes toward the quarry rock. Both total numbers and numbers of species observed were higher near the rocks than near the other material.

Observations on the offshore oil drilling platforms in the Santa Barbara area continued to show large numbers of fishes using these rigs for homes.

The water at the Richfield island was very murky and an estimate of fishes present was impossible. The Standard-Humble platforms were clear and had up to 5,000 semi-residents present along with large schools of sardines and jack mackerel.

The new Texas Company tower, near Gaviota, was visited for the first time this month. Encrusting growth was sparse, but the fish population is becoming sizeable. With the exception of several large schools of sardines, the fishes present were observed near the bottom (98 feet). Rockfish, predominently bocaccio and olive rockfish numbered over 5,600. Many of these were small 3 - 5 inch fish. In the upper waters many young kelp plants were found attached to the structural members.

6. SPECIAL PROJECTS

Two days, October 13 and 20, were spent trawling in Santa Monica Bay as part of the City of Los Angeles' surveillance program. Nine successful hauls were in water 60 to 540 feet deep. Speckled sanddabs, Pacific sanddabs, English sole, yellowchin sculpins and northern midshipmen were most numerous.

A quarterly report was prepared of trawling operations conducted during August, September and October, 1960. During those three months, 7,795 fish of 52 species and 23 families were taken. Speckled sanddabs, yellowchin sculpins and northern midshipmen accounted for 24.6, 21.7 and 15.8 percent of the catch respectively.

The Shell Oil Company conducted seismic oil exploration off the coast between Half Moon Bay and Fort Ross from September 29 to October 5, and from October 13 to 19. A total of 1,745 shots (63,685 pounds of explosives) resulted in 55 separate kills of 1 to 4,000 fish. The total estimated observed kill was 10,426 fish of which 6,465 were anchovies, 5,155 sauries, 697 silversides, 27 jack mackerel and 5 rockfish. The largest kill, 4,000 anchovies,

occurred about 7½ miles off Pt. Reyes. The five rockfish were killed in 25 fathoms off Point San Pedro.

7. BIOLOGICAL NOTES

At a competitive skindiving meet held at Dana Point, October 23, 51 divers spent 146 hours in the water and took 137 fish (12 kinds), 80 abalones (2 kinds) and 21 lobsters. The two most important fish were sheephead with 62 speared and opaleye with 31. The heaviest fish was a 15 pound 5 ounce sheephead and the longest was a 42 inch moray eel.

A number of manuscripts were processed during October and submitted to various editors for publication. Among these were two Fish Bulletins (111 and 112), a paper on bonito for CALIFORNIA FISH AND GAME, a short article on "tunas" for OUTDOOR CALIFORNIA, several items for the PMFC and a MRO Flight Report. The Fish Bulletins are, "Marine Fish Catch of California for the Year 1959", by the Biostatistical Section, Marine Resources Operations; and "Relationship of water temperatures to fish distribution particularly during 1957, 1958 and 1959", by John Radovich.

A single specimen of the fine-scaled triggerfish (Verrunculus polylepis), caught by the trawler CITY OF EUREKA in 280 fathoms off Crescent City, was turned in to the Eureka Laboratory.

A black scabbardfish (Lepidopus xantusi), taken by the trawler MELDON in 180 fathoms off Pt. Sal, was turned in to Stanford Laboratory and presented to the California Academy of Sciences for its collection.

8. BIOSTATISTICS

A. Data Processing

Regular Reports:

September, 1960 Cannery and Processor reports were completed and monthly Tuna and Sardine letters were compiled and mailed.

August and September, 1960 Marine Sport Catch reports were prepared and the mimeographed summary letter mailed.

The following 1959 annual species reports were prepared and distributed:

Barracuda Reports I through VI
White Seabass Reports I through VI
Halibut Report XXVII

Special Reports:

Bluefin tuna reports I — IV for 1936 through 1959 were prepared for the Tuna Investigation. These record catches by origin blocks for a selected fleet of boats. A separation is made of catches from California and Mexican waters.

Historical sardine records were brought up to date for the Pelagic Fish Investigation. These figures will be kept current and used in all forth coming sardine publications.

Comparative sport and commercial landing figures of selected species were prepared. H. G. Orcutt plans to use these figures at the meeting November 28-30.

Average California ex-vessel fishery values for the past five years were summarized for Mr. Croker. These figures help to establish budget support for the P.M.F.C.

The 1959 Catch Bulletin manuscript, Fish Bulletin 111 went to the printer.

Work in Progress:

July, 1960 fish receipts are now being processed through the accounting machines.

The 1950 Boat Listing reports are being repunched as part of the continuing revision of pre-1953 reports to the more usable form we use now.

March through June 1960 Pacific mackerel III reports are scheduled for running. These show catch by type of gear.

Annual abalone and annual pelagic fish reports for 1959 are undergoing processing in the tab room.

The tuna length frequency reports are temporarily stalled pending arrival of two new control boards necessary for their completion.

Field:

The field man spent all his time working in the Technical Assistance Unit. One week was spent in Sacramento attending Orientation Training and providing liaison between Technical Assistance and the Salmon Investigation.

B. Technical Assistance and Biometrical Analysis

Salmon sampling program:

Methods were investigated for determining the significance of the difference in contributions to the fishery between two groups of fish differing in location of release. One of the groups was released at Rio Vista, at the downstream end of the sampling area, and the other group was released at Coleman Hatchery, about 150 miles upstream from Rio Vista.

Sampling plan for Pacific mackerel:

Members of the Technical Assistance Unit and the Pelagic Fish Investigation met to discuss a pilot sampling program for mackerel, with the aim of selecting a method of estimating numbers of fish in the commercial catch which will allow for calculation of the variance of the estimate. The stratified sampling plan decided upon will be put into effect November 1, and will be conducted for two months, concurrently with the present sampling program.

Albacore length-scale radius regression curve:

A second-degree regression equation was computed from measurements of fork length and exterior scale radius on 324 specimens obtained in 1958-59. Tests

are being performed to determine the suitability of the second degree curve in describing the length-scale radius relationship, by comparison with a linear regression line and with a third degree equation.

Catch per angler, California halibut:

Calculation of catch per angler-day of California halibut is being performed for the Sportfish Project. The data are from party boat catch records for 1936--1940 and 1947--1959.

Albacore boat relative fishing power:

Regression lines of log length on log fishing power and of log horsepower on log fishing power were calculated, and tests of linearity applied for each line for each of three year's data. A significant relationship was found between horsepower and fishing power in one of the three fishing seasons and between length and fishing power in two out of the three seasons.

9. RESEARCH VESSELS

ALASKA

The vessel conducted a 20-day pelagic fish survey cruise (60-A-8) in the waters off southern California, including the channel Islands.

N. B. SCOFIELD

The entire month the N. B. SCOFIELD engaged in exploratory fishing operations for ocean shrimp to locate areas of concentration (cruise 60-S-5) in the waters of central California.

NAUTILUS

The NAUTILUS engaged in crab studies (cruise 60-N-9) in the coastal waters off San Francisco Bay all month.

MOLLUSK

The vessel engaged in abalone work along the coastline from San Simeon to Pt. Buchon. Established stations were checked for fishing intensity; tagged abalone were recovered; and others were tagged for growth and movement studies.

10. LIBRARY

A. General

We are fortunate to have Miss Jane Waldron, former librarian for the U. S. Fish and Wildlife Service, Biological Laboratory in Honolulu, available for three months to fill the temporary position vacated by Mrs. Dean. Her knowledge is especially valuable to us.

With staff help, one third of the library has been shifted, rearranged and weeded to utilize all available space.

Publications received: 389

We have received 14,000 copies of the reprint Review of the abalone in California by Keith Cox.

B. Requests processed:

Outside references:	28	Written requests:	40
Interlibrary loans:	9	Publications distributed:	1,647
Visitors:	83	Photocopy:	20
Phone requests:	53	Films shown:	4; 310 viewers

C. New Publications (selected list)

California State Water Pollution Control Board
1960. Summary of marine waste disposal research program in California. Sacramento, 77 p. (Publication no. 22)

Chugunoff, N. I.
1959. Manual to the study and growth of fishes. U.S.S.R. Academy of Sciences, Division of Biological Science, 162 p. (In Russian).

Dawson, E. Yale
1960. Marine red algae of Pacific Mexico. Pt. 3. Pacific Naturalist. vol. 2, no. 1. p. 1-125.

Indo-Pacific Fisheries Council
1960. Proceedings, 8th Session, Colombo, Ceylon, 6-22 December 1958. Pts. 1 and 2. Bankok, IPFC Secretariat, FAO Regional Office.

Scharfe, J.
1960. A new method for "aimed" one-boat trawling in midwater and on the bottom. General Fisheries Council for the Mediterranean, Studies and Reviews, no. 13, 57 p.

U. S. Fish and Wildlife Service
1960. A survey of fish and wildlife resources of northwestern California. Portland, Oregon, Bureau of Sport Fisheries and Wildlife, 104 p.

Van Campen, W. G.
1960. Japanese summer fishery for albacore (Germo alalunga). U. S. Fish and Wildlife Service, Research report 52, 29 p.

11. MISCELLANEOUS

A. Meetings:

Oct. 3 - John Radovich attended a Cal.COFI committee meeting at C.S.F.C.

Oct. 4 - Mr. J. A. Aplin met with Dr. Loosanoff, U.S. Bureau of Commercial Fisheries, and Dr. J. Hedgpeth, Pacific Marine Station, to discuss the proposed nuclear reactor steam plant for Bodega Bay vicinity. Special interest was in the possible effects of wastes on the biota of the area.

Oct. 4 - John L. Baxter attended the Fish and Game Commission meeting in Sacramento. The proposed changes in the seismic regulations were held over until the December meeting. Testimony by experts from the powder companies, Shell Oil Company and the Ocean Fish Protective Association was heard.

Oct. 4 -Phil M. Roedel and John Radovich attended the Marine Research Committee meeting in San Pedro.

Oct. 5-6 -Mr. James Squire, U. S. Bureau of Sportfish and Wildlife discussed possibilities for federal marine sportfish research with various staff members at C.S.F.C.. He visited our Hopkins Marine Station office on October 12.

Oct. 6 -Doyle Gates and Anita Daugherty attended a sardine scale reading session with Robert Wolf and Makoto Kimura of the U. S. Bureau of Commercial Fisheries, at La Jolla.

Oct. 10 -John L. Baxter attended a meeting at Santa Barbara to discuss the site of an ocean outfall proposed by the Montecito Sanitary District. Region V was represented by John J. Barry.

Oct. 17-19-Several staff members attended the annual Cal.COFI conference (see Section 12)

Oct. 25 -John L. Baxter and John Fitch attended a meeting at the Laboratory with Region V personnel to discuss work assignments for Walter Thompson, the Region's new Pollution Bioanalyst III.

B. Talks:

Oct. 5 -Parke Young presented a talk on Marine Resources Operations to an open meeting sponsored by two Los Angeles Area hunting and fishing clubs. Approximately 100 persons were present.

Oct. 5 -Mr. Julie Phillips spoke on "Things in the Sea Around Us" to over 100 members of the Voyagers in Carmel.

Oct. 25 -Parke Young presented a talk on Marine Resources Operations to 30 members of the Artesia Kiwanis Club.

C. Personnel changes:

David Machett was appointed Aquatic Biologist I, seismic observer, October 1.

Terry Healey, Aquatic Biologist I, seismic observer transfered to Region I October 10.

Patricia Burton was appointed Intermediate Clerk on October 3, in the Biostatistical unit.

LaVerne Rauh was appointed Intermediate Clerk Typist on October 3, in the Biostatistical unit.

Simi Taylor was appointed Intermediate Steno clerk on October 3, in the Biostatistical unit.

D. Visitors:

Oct. 3-4 - Dr. V. L. Loosanoff, Director, U. S. Bureau of Commercial Fisheries Laboratory, Milford, Connecticut, visited the Stanford laboratory to discuss shellfish diseases with special reference to mortality of Eastern oysters. He accompanied Mr. Aplin on a field trip to oyster culture areas in Drakes Estero and Tomales Bay.

Oct. 4 - Dr. W. C. Chapman.

Oct. 7 - Drs. Carl Hubbs and Reizo Ishiyama, working on a monograph of the northeastern Pacific Rajidae visited C.S.F.L.. They visited Eureka laboratory on October 20, and the Hopkins Marine Station office on October 26.

Oct. 10 - Dr. C. P. Li, M.D. of National Institute of Health, Bethesda, Maryland, visited the Stanford laboratory on a mission to collect abalone juices and blood for research on polio virus and staphlococcus inhibitors. Mr. Cox assisted Dr. Li in the securing of abalone and in the dissection of the abalone to obtain specific samples.

Oct. 14 - Mr. and Mrs. Herbert Robb, Arizona Department of Fish and Game; Dr. Miles Schmitt, FAO representative from Germany enroute to Mexico.

Oct. 18 - M. Patashnik and H. B. Allen of U.S.F.W.S. Technological Laboratory, Seattle, visited the Eureka laboratory and discussed the jellied and chalky condition of trawl caught fish.

Oct. 26 - Mr. Sol Grossman, head, Western Periodicals Co., and former librarian.

Oct. 27 - Dr. Shigeich Hayashi, Tokai Regional Fisheries Laboratory, Tokyo, called on Mr. Julie Phillips and Clark Blunt at Hopkins Marine Station to discuss methods of aging sardines and anchovies.

Oct. 31 - Dr. Richard Rosenblatt - Scripps - visited C.S.F.L.

12. ACTIVITIES OF MARINE RESOURCES MANAGER

Oct. 3 - Mr. Croker and I spent much of the day discussing marine fisheries research problems with Dr. W. M. Chapman. Dr. Chapman is with the industry-sponsored Resources Committee. We were able to clear up a number of matters pertaining to Departmental organization and responsibilities, and believe that it was time well spent.

Oct. 4 - Attended the Marine Research Committee meeting in San Pedro.

Oct. 5 - Mr. James Squire, U. S. Bureau of Sport Fisheries and Wildlife discussed the Bureau's proposed marine program with Mr. Croker and me.

Oct. 10-11- Regular monthly meetings, Sacramento.

Oct. 17-19- California Cooperative Oceanic Fisheries Investigations usual conference. About 50 people attended this conference held at the University Conference Center, Lake Arrowhead. The bulk of the papers were given by representatives of the cooperating agencies but in addition researchers from Oregon, Washington, Maine, British Columbia, and Japan attended with most of them making presentations. John Radovich, Doyle Gates and Clark Blunt presented papers for the Department. Theirs were thoughtful and well done and on a par with, if not better than, the majority of the others.

Although many good talks were given one was outstanding. This, The Role of Serology in Fisheries Research, by Dr. Carl J. Sindermann, U. S. Bureau of Commercial Fisheries, Booth Bay Harbor, Maine, was especially applicable to the blood genetic work presently being conducted on the sardine by CALCOFI members. It appears that it will prove possible to assess discretness of stocks or groups of fish for management purposes. The knotty problem of attempting to determine if there is more than one stock of fish plus our inability to relate stocks of immature fish to specific spawning aggregations has plagued us for years.

Oct. 27 - Marine Resources Operation staff meeting, Terminal Island.

Phil M. Roedel

Phil M. Roedel
Marine Resources Manager

By: John E. Fitch
Supervisor
So. California Investigations

MRO-TI
11/3/60-45